

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/06/04

Date Received: 04/15/04

Project: % of Acid, PO# M93121, F&BI 404139

Date Analyzed: 04/30/04

**RESULTS FROM THE ANALYSIS OF THE AQUEOUS SAMPLES
FOR SPECIFIC GRAVITY
@ 15.56 °C**

Sample ID

Laboratory ID

Specific Gravity

M93121A Large

404139-01

1.31

M93121B

404139-02

1.32

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**RESULTS FROM THE ANALYSIS OF THE AQUEOUS SAMPLES
FOR PERCENT OF ACID**

Sample ID

Laboratory ID

Percent of Acid

M93121A Large

404139-01

12

M93121B

404139-02

11

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/06/04

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Date Analyzed: 04/30/04

**RESULTS FROM THE ANALYSIS OF THE AQUEOUS SAMPLE
FOR FINGERPRINT CHARACTERIZATION
BY INDUCTIVELY COUPLED PLASMA (ICP)
EMISSION SPECTROSCOPY**

Samples Processed Using Method 3005A

The Metals Were Found at Approximate Levels Indicated

Results Reported as mg/L (ppm)

Sample ID: M93121A Large

Laboratory ID: 404139-01

Copper 3,300 ppm

Iron 69,000 ppm

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**RESULTS FROM THE ANALYSIS OF THE AQUEOUS SAMPLE
FOR FINGERPRINT CHARACTERIZATION
BY INDUCTIVELY COUPLED PLASMA (ICP)
EMISSION SPECTROSCOPY**

Samples Processed Using Method 3005A

The Metals Were Found at Approximate Levels Indicated

Results Reported as mg/L (ppm)

Sample ID: M93121B

Laboratory ID: 404139-02

Copper 35,000 ppm

Iron 40,000 ppm

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/06/04

Date Received: 04/15/04

Project: % of Acid, PO# M93121, F&BI 404139

**QUALITY ASSURANCE RESULTS
FOR THE ANALYSIS OF AQUEOUS SAMPLES
FOR SPECIFIC GRAVITY
@ 15.56 °C**

Laboratory Code: 404139-01 (Duplicate)

Analyte	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Specific Gravity	1.31	1.31	0	0-2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/06/04

Date Received: 04/15/04

Project: % of Acid, PO# M93121, F&BI 404139

**QUALITY ASSURANCE RESULTS
FROM ANALYSIS FOR PERCENT OF ACID**

Laboratory Code: 404139-02 (Duplicate)

Analyte	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Percent of Acid	11	11	0	0-20

404139

SAMPLE CHAIN OF CUSTODY

CM 04/15/04

BI,

AKC-0008355

Send Report To

G. Thompson

Company

Alaska Copper works

Address

628 S. Hancock ST

City, State, ZIP

Seattle WA 98134

Phone #

206-382-8379

Fax #

206-382-4309

SAMPLERS (signature)

PROJECT NAME/NO.

% of Acid

PO #

M93121

REMARKS

Page # _____ of _____

TURNAROUND TIME

☐ Standard (2 Weeks)☐ RUSH

Rush charges authorized by:

SAMPLE DISPOSAL

☐ Dispose after 30 days☐ Return samples☐ Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	ANALYSES REQUESTED										Notes
						TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	% of Acid	FE i cu	Fluoride	Specific Gravity	
M93121A	01	4/15	10:00	H ₂ O ₃	1							X	X	X	X	
Large																
M93121B	02	4/15	10:00	H ₂ O ₃	1							X	X	X	X	

Friedman & Bruya, Inc.
3012 16th Avenue West

Seattle, WA 98119-2029

Ph. (206) 285-8282

Fax (206) 283-5044

FORMS\COC\COG.DOC

SIGNATURE

Relinquished by:

Received by:

Relinquished by:

Received by:

PRINT NAME

G. Thompson

Nhan Phan

COMPANY

Acw

Friedman & Bruya

DATE

4/15/04

4/15/04

TIME

11:06

11:06

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Morrow, M.S.
Yelena Aravkina, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
FAX: (206) 283-5044
e-mail: fbi@isomedia.com

May 6, 2004

Gerry Thompson, Project Manager
Alaskan Copper Works
628 South Hanford
Seattle, WA 98134

Dear Mr. Thompson:

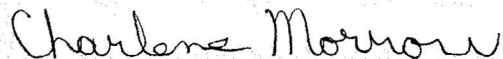
Included are the results from the testing of material submitted on April 15, 2004 from the % of Acid, PO# M93121, F&BI 404139 project. There are 6 pages included in this report. Samples were sent to North Creek Analytical for fluoride analysis. Review of the enclosed report indicates that all quality assurance was acceptable.

Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Charlene Morrow
Chemist

Enclosures
ACU0506R.DOC



Seattle 11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-8244
425.420.9200 fax 425.420.9210
Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302
509.924.9200 fax 509.924.9290
Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132
503.906.9200 fax 503.906.9210
Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711
541.383.9310 fax 541.382.7588
Anchorage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119
907.568.9200 fax 907.568.9210

Friedman & Bruya
3012 16th Ave W
Seattle, WA/USA 98119-2029

Project: Charlene Morrow
Project Number: 404139
Project Manager: Charlene Morrow

Reported:
04/30/04 16:43

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
M93121A Large	B4D0438-01	Water	04/15/04 10:00	04/16/04 16:30
M93121B	B4D0438-02	Water	04/15/04 10:00	04/16/04 16:30

North Creek Analytical - Bothell

Jeanne Garthwaite, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

North Creek Analytical, Inc.
Environmental Laboratory Network

Page 1 of 4

AKC-0008357



Seattle 11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-8244
425.420.9200 fax 425.420.9210
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Anchorage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119
907.563.0200 fax 907.563.0210

Friedman & Bruya
3012 16th Ave W
Seattle, WA/USA 98119-2029

Project: Charlene Morrow
Project Number: 404139
Project Manager: Charlene Morrow

Reported:
04/30/04 16:43

Anions by EPA Method 300.0
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
M93121A Large (B4D0438-01) Water Sampled: 04/15/04 10:00 Received: 04/16/04 16:30									
Fluoride	74800	4000	mg/l	20000	4D29039	04/28/04	04/28/04	EPA 300.0	
M93121B (B4D0438-02) Water Sampled: 04/15/04 10:00 Received: 04/16/04 16:30									
Fluoride	47300	4000	mg/l	20000	4D29039	04/28/04	04/28/04	EPA 300.0	

North Creek Analytical - Bothell

Jeanne Garthwaite, Project Manager

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Environmental Laboratory Network

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AKC-0008358



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907.563.9200 fax 907.563.9210

Friedman & Bruya
3012 16th Ave W
Seattle, WA/USA 98119-2029

Project: Charlene Morrow
Project Number: 404139
Project Manager: Charlene Morrow

Reported:
04/30/04 16:43

Anions by EPA Method 300.0 - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
Batch 4D29039: Prepared 04/28/04 Using General Preparation									
Blank (4D29039-BLK1)									
Fluoride	ND	0.200	mg/l						
LCS (4D29039-BS1)									
Fluoride	0.752	0.200	mg/l	0.800		94.0	90-110		
LCS Dup (4D29039-BSD1)									
Fluoride	0.749	0.200	mg/l	0.800		93.6	90-110	0.400	20
Duplicate (4D29039-DUP1) Source: B4D0168-41									
Fluoride	3.09	0.200	mg/l		3.03			1.96	25
Duplicate (4D29039-DUP2) Source: B4D0168-42									
Fluoride	1.45	0.200	mg/l		1.40			3.51	25
Duplicate (4D29039-DUP3) Source: B4D0328-22									
Fluoride	4.91	0.200	mg/l		4.76			3.10	25
Duplicate (4D29039-DUP4) Source: B4D0328-23									
Fluoride	3.09	0.200	mg/l		3.01			2.62	25
Duplicate (4D29039-DUP7) Source: B4D0438-01									
Fluoride	68400	4000	mg/l		74800			8.94	25

North Creek Analytical - Bothell

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Jeanne Garthwaite, Project Manager

North Creek Analytical, Inc.
Environmental Laboratory Network

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AKC-0008359



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Friedman & Bruya
3012 16th Ave W
Seattle, WA/USA 98119-2029

Project: Charlene Morrow
Project Number: 404139
Project Manager: Charlene Morrow

Reported:
04/30/04 16:43

Notes and Definitions

DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
NR Not Reported
dry Sample results reported on a dry weight basis
RPD Relative Percent Difference

North Creek Analytical - Bothell

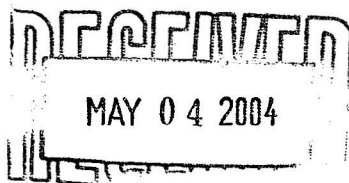
Jeanne Garthwaite, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

North Creek Analytical, Inc.
Environmental Laboratory Network

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AKC-0008360



Seattle 11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-8244
425.420.9200 fax 425.420.9210
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541.383.9310 fax 541.382.7588
Anchorage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119
907.563.9200 fax 907.563.9210

30 April 2004

Charlene Morrow
Friedman & Bruya
3012 16th Ave W
Seattle, WA/USA 98119-2029
RE: Charlene Morrow

Enclosed are the results of analyses for samples received by the laboratory on 04/16/04 16:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jeanne Garthwaite
Project Manager

North Creek Analytical, Inc.
Environmental Laboratory Network

AKC-0008361

SAMPLE CHAIN OF CUSTODY

B4D0438

AKC-0008362

Send Report To Charlene Morrow

Company F&BI

Address see below

City, State, ZIP

Phone # Fax #

SAMPLERS (signature)

PROJECT NAME/NO.

~~403~~ 404139

PO #

F-391

REMARKS

Samples are very acidic

Page # of

TURNAROUND TIME

☒ Standard (2 Weeks)

☐ RUSH

Rush charges authorized by:

SAMPLE DISPOSAL

☐ Dispose after 30 days

☐ Return samples

☐ Will call with instructions

ANALYSES REQUESTED

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	O&G by 1664 no silica	Total Hg by 7470/7471	Total As, Cu, Pb, Zn by 6020	TCLP Hg by 7470 (sample is TCLP extract)	Total RCRA Metals by 6020/7470	Fluoride by 300.0				Notes
M93121A Large	-01	4-15-03	1000	aqueous	1						X				
M93121B	-02	4-15-03	1000	"	1						X				

Friedman & Bruya, Inc.
3012 16th Avenue West

Seattle, WA 98119-2029

Ph. (206) 285-8282

Fax (206) 283-5044

SIGNATURE

Relinquished by:

Charlene Morrow

PRINT NAME

Charlene Morrow

COMPANY

F&BI

DATE

4-16-04

TIME

0830

Received by:

PRANU TONTY

Relinquished by:

Received by:

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Morrow, M.S.
Yelena Aravkina, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.

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e-mail: fbi@isomedia.com

May 6, 2004

DUPLICATE COPY

INVOICE # 04ACU0506-1

Accounts Payable
Alaskan Copper Works
628 South Hanford
Seattle, WA 98134

RE: Project % of Acid, PO# M93121, F&BI 404139 - Results of testing requested
by Gerry Thompson for material submitted on April 15, 2004.

2 samples analyzed for Specific Gravity @ \$25 per sample	\$ 50.00
2 samples analyzed for Percent Acid Content @ \$50 per sample	100.00
2 samples analyzed for Total Fe and Cu by Method 6010B @ \$50 per sample	100.00
2 samples analyzed for Fluoride by Method 300.0 @ \$25 per sample	<u>50.00</u>
Amount Due	\$ 300.00

FEDERAL TAX ID #(b) (6)